Claim Amendments

Please amend claims 1, 6, 9, 10, 14, and 16-26 as follows:

(claim 22 is changed from an independent claim to a dependent claim.)

Please cancel claims 7, 8, 27 as follows:

Please add new independent claim 28 as follows:

Claims as Amended

1. (currently amended) A semiconductor device fuse structure to prevent dielectric layer cracking at corner portions of associated metallization structures comprising:

a substrate;

a top inter-metal dielectric layer on said substrate;

at least two top metal lines in said top inter-metal dielectric layer, said at least two top metal lines comprising a topmost metal layer in electrical communication with at least one lower metal layer comprising a first metal layer;

a fuse on said top inter-metal dielectric layer, said fuse in providing electrical communication between ~~with at least one of~~ said at least two top metal lines by spanning a distance between said at least two top metal lines; and

a protective layer on said fuse; and

a window formed through a thickness portion of the protective layer, said window positioned over a top portion of said fuse.

2. (original) A semiconductor device according to claim 1, wherein said protective layer on said fuse comprises a dielectric layer.

3. (original) A semiconductor device according to claim 2, wherein said dielectric layer comprises silicon dioxide.

4. (original) A semiconductor device according to claim 1, wherein said fuse comprises an aluminum fuse.

5. (original) A semiconductor device according to claim 1, wherein said at least two top metal lines comprises copper.

6. (currently amended) A semiconductor device fuse structure to prevent low dielectric material layer cracking at corner portions of associated metallization structures comprising:

~~an~~ two separated and respectively interconnected metallization structures, each of said metallization structures comprising copper and extending through a plurality of low dielectric material inter-metal dielectric layers ~~surrounding the structure;~~ and

wherein a fuse comprising aluminum ~~connected to~~ extends between each of the

metallization structures in an uppermost inter-metal dielectric layer; and,

a window is disposed over a top portion of said fuse, said window extending through a thickness portion of a silicon dioxide layer on said fuse.

7. cancelled

8. cancelled

9. (currently amended) The semiconductor device as set forth in claim 6 wherein each of the metallization structures include[[s]] a first metal layer and a topmost metal layer, each of said topmost metal layers connected to said fuse ~~and further comprising an inter-metal~~ dielectric layer comprising a low dielectric constant material ~~interposed between the first metal layer and a second metal layer of the structure~~.

10. (currently amended) The semiconductor device as set forth in claim 9 further comprising an etch stop layer on ~~each~~ an upper main face and a lower main face face of the uppermost inter-metal dielectric layer.

11. (original) The semiconductor device as set forth in claim 9 further comprising a plug extending between the first metal layer and the topmost metal layer of the structure.

12. (original) The semiconductor device as set forth in claim 6 wherein the aluminum fuse has a thickness ranging from 1000-7000 angstroms.

13. (original) The semiconductor device as set forth in claim 9 wherein the topmost metal layer of the structure has a thickness of at least 8000 angstroms.

14. (currently amended) A semiconductor device including a fuse comprising a first layer comprising a copper island disposed in a low dielectric material inter-metal dielectric layer and a second layer overlying the first layer, and wherein the second layer comprises aluminum; and,

a fuse window disposed over said second layer, said fuse window extending through a thickness portion of at least one dielectric layer overlying said fuse.

15. cancelled

16. (currently amended) The semiconductor device as set forth in claim ~~15~~ 14 wherein the at least one dielectric layer comprises a passivation layer on the second layer, said passivation layer comprising silicon dioxide.

17. (currently amended) The semiconductor device as set forth in claim 14 further

include[[es]]ing a first metal layer and a topmost metal layer comprising the copper island and ~~further comprising an~~ wherein the inter-metal dielectric layer ~~comprising a low dielectric material~~ is interposed between the first metal layer and the topmost metal layer.

18. (currently amended) The semiconductor device as set forth in claim 17 further comprising an etch stop layer on ~~each~~ an upper main face and a lower main face of the inter-metal dielectric layer.

19. (currently amended) The semiconductor device as set forth in claim 17 ~~further comprising~~ wherein the at least one dielectric layer comprises a ~~first~~ fuse passivation layer ~~overlying~~ the ~~topmost~~ metal layer on said second layer and a dielectric layer on said passivation layer wherein said fuse passivation layer comprises silicon dioxide.

20. (currently amended) The semiconductor device as set forth in claim 17 further comprising a plug extending among ~~each second~~ between the first metal layer and the topmost metal layer.

21. (currently amended) A semiconductor device as set forth in claim 19 further comprising ~~a~~ wherein said fuse window ~~formed~~ extends through the ~~passivation layer down~~ dielectric layer to the fuse passivation layer overlying the fuse.

22. (currently amended) A method of blowing [[a]] the fuse in a semiconductor device including

~~at least a first metallization layer comprising copper and a fuse connected to the first metallization layer, and~~ the fuse structure of claim 1 ~~wherein the fuse comprises~~ aluminum, comprising: directing a laser beam onto the fuse using a wavelength ranging from 300-500 or 1000-1400 nm through the protective layer.

23. (currently amended) The method as set forth in claim 22 wherein the semiconductor device further ~~includes~~ protective layer comprises a fuse passivation layer ~~overlying~~ on an upper face of the fuse.

24. (currently amended) The method as set forth in claim [[22]] 23 wherein the fuse passivation layer comprises silicon dioxide.

25. (currently amended) The method as set forth in claim 22 wherein an upper face of the fuse comprises ~~a first layer comprising~~ aluminum.

26. (currently amended) The method as set forth in claim 22 wherein the ~~fuse comprises a first layer comprising a copper island~~ top two metal lines comprise copper ~~and a second layer~~ comprising aluminum.

27. cancelled

28. (new) A method of blowing a fuse structure to prevent low dielectric material layer cracking at corner portions of associated metallization structures, said fuse structure comprising:

a fuse window formed through at least one dielectric layer overlying an upper face of an aluminum fuse to expose a passivation layer comprising silicon dioxide on said fuse, said fuse window selectively disposed over said upper face of said aluminum fuse;

said aluminum fuse spanning a distance between two copper metallization structures, each of said copper metallization structures comprising interconnected damascene structures extending through a plurality of low dielectric material layers;

wherein said method comprises:

directing a laser beam onto said fuse through said silicon dioxide passivation layer using a wavelength ranging from 300-500 or 1000-1400 nm.